MODIS Technical Team Meeting
Thursday, April 1, 2004
Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Chuck McClain, Steve Kempler, Bill Barnes, Jack Xiong, Shaida Johnston, Chris Justice, Robert Wolfe, Michael King, Bob Barnes and Holli Riebeek, with Yolanda Harvey taking the minutes.

1.0 Upcoming Events

- MODIS Science Team Telecon, March 29, 2004, 11 AM EST, NASA GSFC Building 33, E108.
- Ocean Color Research Team Meeting, Marriott Metro Center, Washington D.C., 14-16 April 2004. Register by April 7 (http://www.tisconferences.com/ocrt/OCRT_regmain.htm) http://www.tisconferences.com/ocrt/
- AGU Joint Assembly, Montreal, Quebec, Canada. May 17-21, 2004. Deadline for abstracts: February 12, 2004 (mail) and February 19 (electronic, before 9 pm EST) http://www.agu.org http://www.agu.org/meetings/sm04/index.shtml
- MODIS Vegetation Workshop II, University of Montana, 17 - 19 August 2004
- AIAA Space 2004 Conference and Exhibit, San Diego, California, September 28-30 2004. http://www.aiaa.org/

2.0 Meeting Minutes

2.1 General Discussion

Salomonson showed a diagram of the Aqua satellite's orbit in relation to other objects flying in orbits in close proximity. He noted that there are dozens of other objects that not infrequently come within hundreds of meters to a few kilometers of the spacecraft. The satellite operations staff spends quite a bit effort in monitoring the situation and making sure that nothing adverse occurs.

Salomonson noted that the minutes from the MODIS Telecon from March 29th will be issued soon. McClain noted that there has been a lot of feedback from the Oceans data user community about wanting to be involved in decisions about products. There are a lot of people that aren't on the team that have valuable expertise, and we have to find a way to work with them.

Salomonson proposed holding the Science Team Meeting during the first week of June, perhaps Tuesday through Friday, and asked if there were any objections. Justice noted that NASA will be holding a Carbon Cycle Science Panel that week, so a lot of people on the team wouldn't be able to participate. Salomonson said that the week prior to and after that week are also possibilities. Justice and King said that the week of May 24-28 would be better for their groups, or alternatively, the week of June 7-11. Salomonson said that he'd continue to try and find dates that seem acceptable and inform the total Science Team (now approximately 90 people) via an e-

mail he will issue in 1-2 weeks. Most likely the meeting will not occur earlier that the first full week in June.

Salomonson reported that all of the MODIS Science Team Land packages have pre-contract approval. Efforts are continuing to get the oceans, atmosphere, etc. packages approved also.

2.2 Instruments

Justice said that he's been tracking emails from Angie Kelly about the problem of switching MODIS Direct Broadcast from the Q to the I channel on Terra. Salomonson said that he's aware of the issue, and that it's still in discussion and analysis. Apparently there are matters involving the ASTER instrument on Terra wherein they might wish to have the DB capability for ASTER. The issue if MODIS DB switches to the I channel, is that many DB subscribers with small dishes (which Coronado has been encouraging them to use) won't be able to adequately pick up the signal. Salomonson encouraged people concerned to make their views (pro, con, or neutral) known to Angie Kelly.

2.2.1 Terra MODIS – Xiong reported that they are adding one spatial characterization this month using the SRCA to adjust an incorrect parameter (staring time) used in the previous characterization test. In general, the instrument is working fine. Wolfe mentioned hearing about another case of zero in the timestamp of the header file. This would be the second case identified, though he wasn't sure if it was a new one or one prior to the last occurrence, which was in March. Xiong said that he'd look into it, and is still keeping track of this issue to determine whether this is something we can expect to keep occurring as the instrument ages.

2.2.2 Aqua MODIS – Xiong reported that the Aqua spacecraft did a successful adjustment maneuver yesterday, and about 7-9 hours later did a successful roll maneuver for RSB calibration by looking the Moon through MODIS space view port. During both maneuvers the MODIS instrument was in normal science mode, and experienced no anomalies.

2.3 DAAC

Kempler reported that the system is running nominally, and is at the leading edge for normal forward processing. Reprocessing is 20 days ahead in terms of sending data to MODAPS. The system has been running at 90%, with a total of 4 hours of downtime in the past week. A couple of large orders have created a 4.2 TB backlog, which they're working on eliminating. He also said that the issue with the QA data continues, as they haven't yet figured out a solution. Johnston said that she thought they had figured the issue out, but now MODAPS doesn't need the subset anymore, Oceans doesn't get the full flow (and it's not quite the right set anyway), and so now they have to determine if Miami can pull the data they need off of the data pools. She said she'd report back next week after talking to them. Kempler asked if the L1A data set is on the data pool, and Johnston said she thought that it is. There is also the possibility of reducing the flow of QA data MCST receives. Xiong said that they are willing to take a cut if they have to, but as it would require careful and selective timing in choosing the data they need, it'd be making their job harder. Shaida asked Xiong to send her a summary of the impacts that MCST would experience.

2.4 SDST

Wolfe reported that Land and Atmospheres reprocessing is ongoing at 3.4X. However, they're about seven days behind real time for Terra and Aqua, because the main forward processing system had a lot of down time over the past week. The problem was such that they're going to replace the system a few weeks earlier than expected. This process was started on Wednesday, and they plan on ramping up forward processing today. Reprocessing on SST has also started, though that is happening on a different system. In addition, the unattended operations will commence this weekend on the reprocessing side. Once they catch up on forward processing, they will start unattended shifts there too. Otherwise, reprocessing is going well.

2.5 Oceans

McClain reported that the group sequenced a number of tests in which they look at Aqua MODIS polarization, brdf, and cloud-masking algorithm changes and compare them to the SeaWiFS results (with similar changes). Late last week they had a discussion about the polarization tables, and found that there was a mistake made in the FFT analysis, which explains a problem in the Aqua MODIS data set. By and large the huge discrepancies in water leaving radiances at high latitudes are now gone, which is very good news. What was a discrepancy in Aqua of a factor of two has now been reduced to ten percent. Now, when looking at binned data, it's hard to tell the difference between the Aqua and SeaWiFS data sets. They plan on showing their results at the Ocean Color Research Team Meeting and ask for recommendations from the team.

2.6 Atmospheres

King reported that he's still sorting through the list of MODIS Science Team members. Some Co-Is seem to be listed in addition to PIs, so he's working on straightening that out.

King reported that MODIS Joint Histograms of Cloud Optical Properties for California Stratocumulus, with caption that shows the diurnal effects of cloud burn-off by comparing Terra and MODIS observations for June 2003, is being featured on the Climate and Radiation Brand website this week as the image of the week (http://climate.gsfc.nasa.gov). By the end of the week, it will still be on the website in the 'Image of the Week Archive.'

King reported that he's working on his MODIS Final Report, which he modeled after Menzel's and Minnett's very nice reports. King's report is already up to 35 pages, and still more has yet to be added. It lists 38 journal publications resulting from his MODIS work over the last decade. Many more papers on aerosols and other topics not directly part of his MODIS science team investigation are not listed and described.

King reported that he will be submitting a paper next week, entitled 'Spatially Complete Surface Albedo Datasets: Value-Added Products Derived from Terra MODIS Land Products,' which is a joint collaboration by the MODIS atmosphere (Eric Moody, Michael King, Steven Platnick) and land (Crystal Schaaf and Feng Gao) groups.

King reported progress on his group's explorations of data compression of file sizes of MODIS atmosphere data products, which appears to be able to losslessly reduce file sizes by a factor of three or four. This compression is designed to be transparent to the users, since the file sizes would be smaller but the visualization and extraction tools that use hdf libraries expand and read

the files with no alteration whatsoever. This will likely be implemented in collection 5 processing.

3.0 Action Items

3.1 New Action Items

3.1.1 Xiong to send Johnston an email summary of how reducing the flow of QA data to MCST would affect operations.

3.2 Old Action Items

3.2.1 Wolfe to send list of Linux-ported algorithms to Kempler and Pat Coranado; Kempler to send Bachella's email to Wolfe.
Status: Closed.

3.2.2 Johnston to summarize the available options and scenarios for the group to consider, as well as break down the types of data that are considered QA data.
Status: Open.

3.2.3 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.
Status: Open.

3.2.4 Kempler to bring back some proposals for how the disciplines can deal with the DAAC distribution problem.
Status: Open.